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The Innovation Value Chain and Adaptability of Organizations

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ABSTRACT

This paper reports on a study of adaptability of organizations and how that relates to their ability to generate innovations. Constructs from an organizational culture model and the innovation value chain was used as the foundation for a cross-sectional study in 7 organizations in Ireland. The findings reveal that adaptability is indeed related to innovativeness. Organizations that are good at creating change, learning, and creativity are better able to generate new ideas. In addition organizations that are also flexible can convert these ideas into outputs and subsequently disseminate them internally as well as outside the organization.

Keywords: Innovation, Value Chain, Organizations, Culture

INTRODUCTION

It could well be argued that the world has entered the "Innovation Age". Popular media frequently remind organizations and individuals how important innovation is in light of the wave of new ideas and developments in many fields (Ohr, 2015; Percy, 2015). Innovation could, on the one hand, be regarded as a driver for change since organizations that are aware of new innovations and are quick to adopt them may also create a competitive advantage for the organization by changing what they do and how they do it. On the other hand instead of just being the driver for change, innovation can also be regarded as a result of change. It is therefore useful to distinguish between adoption of innovations and the generation of innovations (Smit, 2014). Organizations also want to be innovative by generating new products, services, and so forth. It is therefore not surprising that executives consume increasing amounts of information about innovation, and try to learn how others do it, in an effort to get their own organizations to be more innovative (Rao & Weintraub, 2013). The question on everyone's lips is how do we become more innovative?

Research has suggested a strong link between organizational culture and the innovativeness of organizations (Tellis et al., 2009). More specifically it has been suggested as far back as the 1990s that higher levels of innovativeness are present in organizations that are adaptable and have, amongst others, a culture of learning (Hurley & Hult, 1998). Their research however focused more specifically on market and learning orientation as antecedents for innovativeness. More recently Skerlavaj et al. (2010) focused on the concept of an organizational learning culture and its relation to innovation. From their study of more than 200 organizations they conclude that an organizational learning culture has an impact on specifically technical and administrative innovations in organizations.

The above however focuses on a fairly narrow conceptualization of adaptability. Similar contributions in research on organizational culture and its relation to how organizations perform in a variety of areas, do offer a somewhat wider view of adaptability and its relationship with

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innovativeness (e.g. Dasgupta & Gupta, 2009; Denison, 1990, 2000; Smit 2014; Smit et al., 2008). The purpose of this paper is to further explore the adaptability of organizations and its relation with innovation and the following research question is offered:

What is the relationship between Organizational Adaptability and Innovativeness?

It has to be noted at this point that the research had an exploratory nature since relationship between the constructs used in the investigation has not been tested before. In addition the data that was used was taken from a larger set of more than 900 responses gathered from 21 organizations based in 7 countries (6 from Europe) in a study aimed at investigating the relationship between organizational culture in general and innovation and its adoption. Since this resulted in a fairly heterogeneous sample the responses from one country (Ireland) was isolated for exploratory purposes. For this reason no formal hypotheses are stated, but a general expectation is that the results will reveal moderate to strong correlations between Adaptability and Innovativeness.

The literature review that follows reports on theoretical developments in this area and will show how the X Model of Organizational Culture (Smit et al., 2008) and the Innovation Value Chain (Hansen and Birkenshaw, 2007) was used to explore the link between these constructs. . This is followed by a description of how the research was conducted and a presentation and discussion of the findings. Finally a conclusion with some recommendation is presented.

LITERATURE REVIEW

In order to contextualize the topic of this paper a brief review of the relevant literature is presented. This review focuses mainly on research related to organizational culture and innovation. More specifically the focus is on Adaptability of organizations as well as the Innovation Value Chain (IVC).

Adaptability

The concept of adaptability enjoys significant attention in research literature. (Chaharbaghi et al., 2005; Kotter & Heskitt, 1992; and Denison, 1984 & 1990). Simsek (2009:602) refers to the ability of organizations to "reconfigure activities quickly to meet changing demands". Basadur et al. (2014) describe adaptability as being good at changing routine in the organization, which implies that change is disruptive. They suggest that adaptability could be conceptualized as a four-stage process consisting of generating, conceptualizing and solving problems followed by implementing solutions.

For the purpose of this project however the focus was not per se on the process of adapting, but rather how well organizations adapt (and its relation to how well they innovate). Therefore the concept is based on one dimension of the X Model of Smit et al. (2008). The X Model contains five dimensions of organization culture namely Leadership, Strategy, Coordination, Relationships, and Adaptability. The proposed definition for Adaptability is:

> **"*…the degree to which the organization is in contact with and responds to change.*" (Smit, et al., 2008:81)**

Adaptability, as described by Smit et al. (2008) subsequently also contains several constructs namely Client Focus, Creating Change, Organizational Learning, Innovation and Creativity, and Flexibility.

Each of these are defined briefly.

- **Client Focus** refers to the ability of organizations to understand the needs of customers and respond it.

- **Creating Change** refers to how well the organization is able to use gained knowledge to create change.

- This implies that organizations also should have the ability to learn and thus **Organizational Learning** is defined as the ability to learn from experience and share things such as knowledge, experience and information.

- **Innovation and Creativity** contributes to the adaptability of organization by tapping into the contribution that individuals can make in this regard.

- **Flexibility** refers to the ability of an organization to use its rules, regulations policies and beliefs in such a way that it enables change (Smit et al., 2008).

These elements were used as the foundation for designing a questionnaire to collect data about the Adaptability of organization.

The Innovation Value Chain

The idea of an IVC is fairly new, but its roots lie in somewhat older conceptualizations of activities in organizations; the first being the idea that innovation is indeed a process. For instance Zaltman and Holbek (1973) proposed two stages in the innovation process namely initiation and implementation. Secondly the roots of the IVC also lies in the idea of the generic value chain as proposed by Porter (1985). He defined an organization's value chain as a system of five linked primary activities and some support activities that lead to the creation of value for customers. Kaplan and Norton (1996) also proposed a generic value chain from an internal perspective of the organization, but their model contains three linked cycles (innovation, operations and post-sale service cycles), thus introducing the idea of innovation into the value chain. Their innovation cycle is fairly simple and contains two phases namely identifying the market and creating the service (or product).

The original value chain of Porter (1985) however served as the basis for describing a more expanded innovation value chain (Van Horne et al., 2006). They suggest six primary activities (need identification, applied research, innovation development, commercialization, diffusion, and adoption) and some support activities (competency management, infrastructure management, and knowledge management).

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More recently, Bouncken and Teichert (2012) focused on innovation from an inter-organizational perspective within industries, more specifically the renewable energy industry. Their conceptual model is also somewhat complicated and unclear since it does not distinguish between activities, entities, and artifacts. But it is possible to identify three general phases in their model namely research and development, product development, and dissemination (which include activities such as marketing). These three phases roughly coincide with the primary activities suggested by Van Horne et al. (2006) where need identification and applied research as one concept could be conceived to refer to research and development (R&D), whilst innovation development and product development as a concept could be regarded as referring to development activities, and finally when one regards commercialization, diffusion and adoption collectively as dissemination.

The same pattern returns in the models of Roper et al. (2008) and Ganotakis and Love (2012) who look at innovation from the knowledge perspective. They refer to knowledge sourcing (for instance research and development), knowledge transformation (knowledge transformed into outputs) and knowledge exploitation (entering the market).

The idea of IVC was however first suggested by Hansen and Birkenshaw (2007) and was developed from five large research projects that they conducted over a span of ten years. This resulted in a model which suggests an integrated process of transforming new ideas into commercial outputs. This process contains three phases namely Idea Generation, Idea Conversion and finally Diffusion. As can be seen clearly the three-stage process suggested by Hansen and Birkenshaw (2007) has returned in other conceptualizations of the IVC as described above.

The first phase, Idea Generation, is fairly self-explanatory and essentially refers to the process of finding or creating ideas for innovation. Hansen and Birkenshaw (2007) suggests that new ideas can be generated internally (within groups or organizations), through cross-unit collaboration, or externally. They refer to these three process as In-house-, Cross Pollination, and External.

The next phase, Idea Conversion, refers to the process of turning new ideas into an innovation. In this regard Hansen and Birkenshaw (2007) propose that organizations need to manage the screening and funding of these ideas for further development. They refer to this process as selection. This is followed by the process of actually developing ideas into new products or services, referred to as development.

And finally the last phase in the IVC is that of Diffusion, which refers to disseminating developed ideas across, but also outside of the organization.

The various constructs that can be identified in the X Model of Smit et al. (2008) and the IVC suggested by Hansen and Birkenshaw (2007) served as the basis for the conceptual model that was used for investigating the area of interest. This model is presented in Figure 1.

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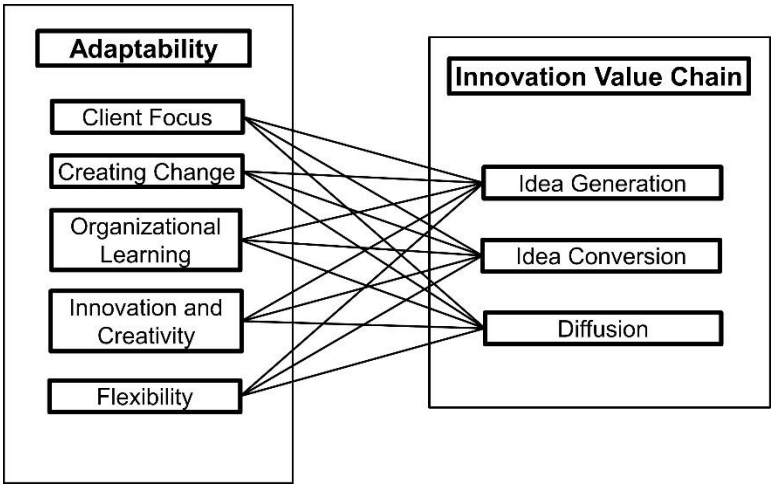
Figure 1: The Conceptual Model.



As can be seen in Figure 1 the intention was to investigate the relationship between the various main elements of the models; on the one hand Adaptability and it sub-elements (Client Focus, Creating Change, Organizational Learning, Innovation and Creativity, and Flexibility) and on the other hand the IVC and its sub-elements (Idea Generation, Idea Conversion, and Diffusion). The next section describes how this model was operationalized and applied.

RESEARCH METHOD

The Questionnaire

The tool for data collection in the original study was a questionnaire that contained 4 sections:

- One that focuses on biographical information,
- One on organizational culture,
- One on the IVC, and
- One on adoption.

To measure organizational culture several items were used for each of the organizational culture dimensions (Leadership, Strategy, Adaptability, Coordination and Relationships). For this paper the focus remained on the data collected about Adaptability, which in turn contains five constructs. For the IVC section there were three items for measuring Idea Generation, three for Idea Conversion, and one for Idea Diffusion, all of these being derived from the constructs proposed by Hansen and Birkenshaw (2007).

All the items, except for the biographical section, were of the Likert scale type, where respondents had to select to what extent they agree or disagree with statements offered in the questionnaire.

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Sampling and Data Collection

As mentioned in the introduction, data was collected from 21 organizations in 7 countries. One of these countries was Ireland where several organizations were approached to participate in the study. They were identified through convenience sampling as research students, who were doing an internship in these organizations, were asked to collect the data at their place of work. In total 7 organizations from Ireland participated in the survey and 404 respondents completed the questionnaire.

The organizations ranged in size including large, medium and small as derived from the Europa Summaries of Legislation (2015) which states that medium organizations have less than 250 employees, and small organization less than 50. For this study large organization were those who have more than 250 employees. No micro organization (less than 20 employees) took part in the study.

In summary 1 small-sized organization, 4 medium-sized organizations and 2 large organizations participated in the study. Table 1 presents the number of respondents from each of the groups of organizational sizes.

Table 1: Organizational sizes.

Organization Size	Frequency	Percent
Large	219	54,2
Medium	161	39,9
Small	24	5,9
Total	**404**	**100,0**

As can be seen in Table 1 most responses came from the 2 large organizations (54%) and least from the small organization (almost 6%).

Table 2 depicts the industries in which the participating organizations operate and how many responses were received for each organization. For ethical purposes the names of the organizations are not revealed and coded names (e.g. Organization 1 etc.) are used.

Table 2: Frequency table Organization and Industry.

Organization ID	Size	Industry	Frequency	Percent
Organization 1	Medium	Food & Beverage	29	7,2
Organization 2	Small	Education	24	5,9
Organization 3	Large	Health	117	29,0
Organization 4	Large	IT	102	25,2
Organization 5	Medium	Hotel	41	10,1

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Organization 6	Medium	Professional Services	58	14,4
Organization 7	Medium	Hotel	33	8,2
Total			**404**	**100**

In Table 2 the coded names of the organizations, organizational size, which industry they operate in, the number of responses and percentage is presented in the columns. As can be seen the largest number of responses came from an organization in the health industry (29%) followed by an organization in the IT industry (25%). It is notable that these are also the two large organizations. The least number of responses came from a small organization (24 responses) and this was also the number of employees in the organization. So the full population of this organization participated.

Data Analysis

For the analysis the data was imported to SPSS and several tests were conducted. The analysis consisted of four activities namely:

- A factor analysis and reliability analysis on two of the IVC elements (Idea Generation and Idea Conversion) since these each contained 3 items in the questionnaire, representing the various constructs from the IVC.
- A correlational analysis to investigate the relationship between the variables
- A regression analysis to investigate the nature and strength of the relationships between the variables

FINDINGS AND DISCUSSION

The Factor Analysis for IVC

Two of the constructs in the IVC (Idea Generation and Idea Conversion) were measured by multiple items in the questionnaire. It is therefore meaningful to conduct a factor analysis in order to determine whether the these items measure an underlying construct. The findings reveal a one factor solution for both Idea Generation and Idea Conversion. This is discussed in more detail below.

For Idea Generation the bivariate correlation analysis reveals correlations of between $r = 0,3$ and $r = 0,6$ as can be seen in Table 3. These are moderate to strong correlations and could be interpreted to suggest some internal consistency.

Table 3: Correlation Matrix Idea Generation.

		In-house	Cross-Pollination	External
Correlation	In-house	1,000	,569	,351
	Cross-Pollination	,569	1,000	,372
	External	,351	,372	1,000

The communalities table for Idea Generation (Table 4) reveals that one factor emerges from the analysis with an eigenvalue of 1,870.

Table 4: Total Variance Explained Idea Generation.

	Initial Eigenvalues			Extraction Sums of Squared Loadings	
Component	Total	% of Variance	Cumulative %	Total	% of Variance
1	1,870	62,329	62,329	1,870	62,329
2	,700	23,332	85,661		
3	,430	14,339	100,000		

The reliability analysis reveals a Cronbach's Alpha of just under 0,7 as can be seen in Table 5. A generally accepted rule of thumb is that 0,7 be regarded as acceptably reliable (Urdan, 2010) and for this project 0,689 is close enough to regard the findings as reliable.

Table 5: Reliability Statistics Idea Generation.

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,689	,694	3

The factor analysis for Idea Conversion reveals somewhat stronger correlations between the items ranging from $r = 0{,}513$ to $r = 0{,}653$ as presented in Table 6.

Table 6: Correlation Matrix Idea Conversion

		Selection, Screening	Selection, Funding	Development
Correlation	Selection, Screening	1,000	,513	,550
	Selection, Funding	,513	1,000	,653
	Development	,550	,653	1,000

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The communalities table for Idea Conversion (Table 7) reveals a fairly high eigenvalue (2,147) for the one factor that emerges.

Table 7: Total Variance Explained Idea Conversion.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings	
	Total	% of Variance	Cumulative %	Total	% of Variance
1	2,147	71,556	71,556	2,147	71,556
2	,510	16,990	88,546		
3	,344	11,454	100,000		

Table 7: Total Variance Explained Idea Conversion

The results for reliability of the findings for Idea Conversion is also somewhat higher revealing a Cronbach's Alpha of 0,800 as shown in Table 8.

Table 8: Reliability Statistics Idea Conversion.

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,800	,801	3

The above suggests that responses on the three items for respectively Idea Generation and Idea Conversion may be combined to investigate how each correlate to Adaptability as well as strong relaiability.

The Correlational Analysis

The correlational analysis reveals the results presented in Table 9.

Table 9: Correlation Adaptability and IVC.

	Idea Generation	**Idea Conversion**	**Diffusion**
Client focus	,221*	,284**	,247**
Creating change	,551**	,462**	,332**
Organizational Learning	,461**	,320**	,261**
Innovation and Creativity	,544**	,510**	,293**
Flexibility	,362**	,552**	,506**
**. Correlation is significant at the 0.01 level (2-tailed).			

Since the Likert scale that was used in this project essentially produces ordinal data, Spearman rho coefficients were calculated. All coefficients are significant at the 0,01 level.

Idea Generation and Idea Conversion seems to be correlated most strongly with elements from Adaptability. Three constructs (Creating Change, Organizational Learning, and Innovation and Creativity) return coefficients of above r = 0,461 which can be considered moderate to strong correlations.

This means that organizations that are able to create change, learn new things, and are looking for new ways to deliver services and products, are more likely to be able to generate new ideas.

In terms of Idea Conversion the data reveals similar trends since three of the Adaptability elements are correlated moderately to strongly with Idea Conversion (r > 0,462). This means that organizations that are able to create change, are looking for new ways to deliver services and products, and that are able to apply policies, rules and regulations to create opportunities rather than barriers, are more likely to be able to convert ideas into new products or services.

On the other hand Diffusion seems to have the weakest relationship with Adaptability where only one construct (Flexibility) return a value of r = 0,506. This means that organizations that are able to use rules, policies and regulations in a way that create opportunities are more likely to be able to diffuse these ideas within and outside of the organization. This seems to make sense since dissemination also refers to adoption which implies that outputs from idea generation and idea conversion (i.e. new products and services) are more likely to be used because organizations are willing and able to create opportunities for use.

The Multiple Regression Analysis

A multiple regression analysis was conducted in order to study the predictors for Idea Generation, Idea Conversion, and Diffusion. Five predictors were used in the model namely Flexibility, Client Focus, Innovation and Creativity, Organizational Learning and Flexibility. The results are presented below, starting with the model summary for all dependent variables, and the ANOVA results and coefficients for each of the dependent variables separately.

In Table 10, which presents the model summary, the dependent variables are respectively Idea Generation, Idea Conversion and Diffusion.

Table 10: Model Summary.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Idea Generation	,684[a]	,467	,460	,53141
Idea Conversion	,655[a]	,429	,422	,59746
Diffusion	,526[a]	,277	,268	,83624
a. Predictors: (Constant), Flexibility, Client focus, Innovation and Creativity, Organizational Learning, Creating change				

As can be seen the multiple correlation coefficients range from 0,526 to 0,684, which can be regarded as moderate to strong. The variance in the three independent variables are highest for Idea Generation and Idea Conversion, which implies that 46% of the variance in Idea Generation can be explained by the combine Adaptability constructs and 42% of the variance in Idea Conversion.

The ANOVA results and coefficients are presented below and discussed separately for each of the dependent variables starting with the ANOVA results for Idea Generation.

Table 11: ANOVA Idea Generation.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	97,805	5	19,561	69,267	,000[b]
	Residual	111,548	395	,282		
	Total	209,353	400			

a. Dependent Variable: Idea Generation
b. Predictors: (Constant), Flexibility, Client focus, Innovation and Creativity, Organizational Learning, Creating change

In Table 11 the F value of 69,267 and corresponding p value of 0.000 reveals that the regression model is statistically significant. This means that a significant proportion of the combined Adaptability variables explain the variance in Idea Generation. Table 12 presents a closer look at the regression model for Idea Generation.

Table 12: Coefficients Idea Generation.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1,309	,142		9,210	,000	1,029	1,588
	Client focus	-,020	,036	-,025	-,553	,581	-,091	,051
	Creating change	,207	,041	,269	5,109	,000	,127	,287
	Organizational Learning	,102	,038	,133	2,659	,008	,026	,177

	Innovation and Creativity	,239	,040	,315	6,027	,000	,161	,317
	Flexibility	,084	,033	,117	2,559	,011	,019	,148
a. Dependent Variable: Idea Generation								

The standardized regression coefficients reveal that two of the independent variables are statistically significant (*Sig.*≤ 0.05) predictors for Idea Generation. The strongest predictor is Innovation and Creativity at β=0.315, followed by Creating Change (β=0.269). This implies that when organizations are constantly looking for new ways of delivering services and products and also continue to seek new opportunities for change that it is likely that the result would be that they become better at generating new ideas. This also confirms the findings of the correlation analysis as presented earlier.

The ANOVA results for Idea Conversion shows similar trends, and as can be seen in Table 13 the F value of 59,407 and corresponding p value of 0.000 reveals that the regression model is statistically significant.

Table 13: ANOVA Idea Conversion.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	106,029	5	21,206	59,407	,000[b]
	Residual	140,999	395	,357		
	Total	247,027	400			
a. Dependent Variable: Idea Conversion b. Predictors: (Constant), Flexibility, Client focus, Innovation and Creativity, Organizational Learning, Creating change						

This means that a significant proportion of the combined Adaptability variables explain the variance in Idea Generation. Table 14 presents a closer look at the regression model for Idea Conversion.

Table 14: Coefficients Idea Conversion.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
	(Constant)	1,230	,160		7,701	,000	,916	1,544

	Client focus	-,008	,041	-,009	-,188	,851	-,087	,072
	Creating change	,170	,046	,203	3,727	,000	,080	,260
	Organizational Learning	,016	,043	,019	,365	,715	-,069	,100
	Innovation and Creativity	,164	,045	,199	3,674	,000	,076	,251
	Flexibility	,286	,037	,368	7,753	,000	,213	,358
a. Dependent Variable: Idea Conversion								

The standardized regression coefficients reveal that three of the independent variables are statistically significant (*Sig.*≤ 0.05) predictors for Idea Conversion namely Flexibility (β=0.368), Creating Change (β=0.203) and finally Innovation and Creativity (β=0.199). It is noticeable however that the coefficients become slightly weaker. Nevertheless this does imply a trend that (at the most), when organizations are able to use rules regulations and policies in a way that creates opportunities and are also able to consistently seek new opportunities for change, then it is likely that this will lead to better Idea Conversion. Once again these findings confirm the results of the correlations analysis.

Finally the results for Diffusion as dependent variable is presented. In Table 15 the F value of 30,033 and corresponding p value of 0.000 reveals that the regression model is statistically significant, albeit that the F value is lower if compared to those of Idea Generation and Idea Conversion.

Table 15: ANOVA Diffusion.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	105,011	5	21,002	30,033	,000[b]
	Residual	274,127	392	,699		
	Total	379,138	397			
a. Dependent Variable: Diffusion b. Predictors: (Constant), Flexibility, Client focus, Innovation and Creativity, Organizational Learning, Creating change						

Nevertheless this means that a significant proportion of the combined Adaptability variables explain the variance in Diffusion. Table 16 presents a closer look at the regression model for Diffusion.

Table 16: Coefficients Diffusion.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1,162	,224		5,189	,000	,721	1,602
	Client focus	,024	,057	,022	,416	,678	-,088	,135
	Creating change	,129	,064	,124	2,013	,045	,003	,254
	Organizational Learning	,117	,061	,112	1,920	,056	-,003	,236
	Innovation and Creativity	,034	,062	,033	,543	,588	-,089	,157
	Flexibility	,330	,052	,343	6,396	,000	,229	,432
a. Dependent Variable: Diffusion								

The standardized regression coefficients reveal that only one of the independent variables is a statistically significant (*Sig.*≤ 0.05) predictor for Diffusion namely Flexibility (β=0.343). This is in line with the results of the correlation analysis and it suggests that when organizations are able to use rules regulations and policies in a way that creates opportunities then it is likely that this will lead to better Diffusion of the outputs from Idea Conversion.

DISCUSSION AND CONCLUDING REMARKS

In summary it can be stated that the factor analysis of the two IVC dimension, Idea Generation and Idea Conversion suggests that each measures a single underlying construct. The reliability analysis reveals Cronbach's Alpha scores that are near or above 0,700, which means that the tool is reliable.

The results of the correlations analysis and regression analysis are summarized and combined in table 17.

Table 17: Summary Correlations and Regression.

	Idea Generation	Idea Conversion	Diffusion
Client focus			
Creating change	r / β	r / β	
Organizational Learning	r		
Innovation and Creativity	r / β	r /β	
Flexibility		r	r / β
r = Strong to Moderate Correlations that are significant at the 0.01 level (2-tailed) β = Beta is significant at. < 0.05			

Note that r refers to strong to moderate correlations (r > 0,400) and β refers to Beta scores that are statistically significant (*Sig.*≤ 0.05). As can be seen the correlation analysis revealed several strong to moderate relationships between Adaptability and the IVC. Most notably it seems that Idea Generation is related to the ability of the organization create change, to learn and its ability to be innovative and creative. Idea Conversion is also related the organizations ability to create change and to learn, and in addition to its ability to use rules, regulations and policies to create opportunities. And finally Diffusion seems to be related only to Flexibility, implying that organizations that use policies and so forth to create opportunities are likely to be also better at disseminating their innovations internally or externally.

The regression analysis reveals that the variance in Idea Generation and Idea Conversion can be explained by the combined Adaptability construct. A closer examination reveals confirmation of the correlational analysis with the exception of organizational learning.

The findings confirm partially what others have found (e.g. Hurley & Hult, 1998; Skerlavaj et al., 2010) regarding the importance of adaptability for innovation in organizations. The findings of this investigation imply that organization learning is less important for innovation than has been suggested. Although related to Idea Generation, which is at the start of the IVC, organizational learning seems to lose its importance in the later phases of the IVC. At the Idea Conversion phase the ability of the organizations to create change and it's flexibility become more important, and finally during the Dissemination phase organizations need to be flexible if they want their innovations to be adopted.

There are of course some limitations to the study. Although the sample size was fairly large, it might be possible that it might be too heterogeneous, even though effort was made to select cases from one country. The organizations that took part range in size and also operate in different industries. This could account for some of the findings.

The concept of Diffusion used in this study was fairly simple and measured by only one item. This could be extended in future research to explore how flexibility is related to the diffusion process.

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For organizations that wish to be innovative by generating new ideas, convert them into outputs and disseminate these, it can be recommended that they focus on becoming more adaptable. More specifically organizations need to develop a learning culture in order to generate more new ideas. It is also recommended that in order to convert these ideas into outputs, organizations should focus on how they create change, foster creativity and develop their flexibility. Being flexible will also finally contribute to the successful dissemination of new outputs.

REFERENCES

Basadur, M., Gelade, G., & Basadur, T. (2014). Creative Problem-solving process styles, cognitive work demands, and organizational adaptability. *The Journal of Applied Behavioral Science*, 50(1), 80–115.

Bouncken, R., & Teichert, T. (2012). Analyzing the innovation value chain: a study on the renewable energy industry. *International Journal of Business Research*, 12(4), 33-42.

Chaharbaghi, K., Adcroft, A. & Willis, R. (2005). Organisations, Transformability and the Dynamics of Strategy. *Management Decision,* 43(1), 6-12.

Dasgupta, S., & Gupta, B. (2009). Espoused organizational culture traits and internet technology adoption. *AMCIS Proceedings*. Paper 586, [Online] Available from http://aisel.aisnet.org/amcis2009/586, accessed 1 April 2011.

Denison, D. R. (1984). Bringing Corporate Culture to the Bottom Line. *Organisational Dynamics*, 13(2), 4-22.

Denison, D. R. (1990). Corporate Culture and Organizational Effectiveness. New York: John Wiley & Sons.

Denison, D. R. (2000). Organisational Culture: Can it be a Key Lever for Driving Organisational Change? Working paper, University of Michigan Europa Summaries of Legislation (2015) Definition of micro, small and medium-sized enterprises. Online:http://europa.eu/legislation_summaries/enterprise/business_environment/n26026_en.htm. Accessed 24/06/2015.

Ganotakis, P., & Love, J. H. (2012). The innovation value chain in new technology-based firms: evidence from the U.K. *Journal of Product Innovation Management*, 29(5), 839–860.

Hansen, M. T. en J. Birkinshaw (2007, June). The Innovation Value Chain. Harvard Business Review.

Hurley, R. F., & Hult, T. M. (1998). Innovation, market orientation, and organizational learning: an integration and empirical examination. *Journal of Marketing*, 62, 42-54.

Kaplan, R. S., & Norton, D. P. (1996). Linking the balanced scorecard to strategy. *California Management Review*, 39(1), 53-79.

  ISSN: 1543-5962-Printed Copy ISSN: 1941-6679-On-line Copy

Kotter, J. P., & Heskett, J. L. (1992). Corporate Culture and Performance. Free Press, New York, NY.

Ohr, R. (2015) Innovation and Organizational Culture. Online: http://www.innovationexcellence.com/blog/2015/05/29/innovation-and-organizational-culture/[28-6-2015 11:42:46]. Accessed, 25/06/2015.

Percy, E. (2015). In the age of disruptive innovation, adaptability is what matters most. The Globe and Mail, May 13, Online: http://www.theglobeandmail.com/report-on-business/small-business/sb-digital/innovation/in-the-age-of-disruptive-innovation-adaptability-is-what-matters-most/article24369582/[28-6-2015 11:13:54], Accessed 27/06/2015.

Porter, M. E. (1985). Competitive Advantage: Creating and Sustaining Superior Performance. New York.: Simon and Schuster.

Roper, S., Du, J., & Love, H. J. (2008). Modelling the innovation value chain. *Research Policy*, 37, 961–977.

Simsek, Z. (2009). Organizational ambidexterity: towards a multilevel understanding. *Journal of Management Studies*, 46(4), 597-624.

Rao, J., & Weintraub, J. (2013). How innovative is your company's culture? *MIT Sloan Management Review,* Spring, March 19.

Skerlavaj, M., Song, J. H., & Lee, Y. (2010). Organizational learning culture, innovative culture and innovations in South Korean firms. *Expert Systems with Applications*, 37, 6390–6403.

Smit, J. (2014). The Relationship between Organizational Culture and Innovation. Paper presented at the 25th Annual Conference of the International Information Management Association (IIMA), 2014, Palm Springs, California.

Smit, J., Ludik, J., & Forster, S. (2008). Organisational culture in the South African context: the X model. *The International Journal of Knowledge, Culture and Change Management*, 7(10). 73-85.

Tellis, G. J., Prabhu, J. C., & Chandy, R. K. (2009). Radical innovation across nations: the preeminence of corporate culture. *Journal of Marketing*, 73, 3-23.

Van Horne, C., Frayret, J., & Poulin, D. (2006). Creating value with innovation: From centre of expertise to the forest products industry. *Forest Policy and Economics*, 8, 751–761.

Zaltman, G. R. D., & Holbek, J. (1973). Innovations and Organizations. New York: John Wiley & Sons.

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